

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 18. (Canceled)

19. (Currently Amended) A heat exchanger block comprising

~~at least two first and second heat exchangers, the first and second heat exchangers each consisting of including a pair of longitudinal headers with flow passages extending between said longitudinal headers, an end of a header of the first heat exchanger positioned adjacent and detachably connected to an end of a header of the second heat exchangers exchanger, being detachably connected at adjacent ends of their headers~~ wherein

one of said ~~adjacent headers~~ header ends includes a recessed portion ~~in the adjacent end and a hole,~~

[[the]] an other of said ~~adjacent headers~~ header ends includes a flange receivable in said recessed portion ~~of said one header and a hole through the flange aligned with the hole of the one header end, and~~

~~aligned holes extend through said flange and said one header end; and~~
a fastener received in said aligned holes ~~in the ends of at least one set of adjacent headers;~~
wherein an internal volume defined by the header of the first heat exchanger is fluidly isolated from an internal volume defined by the header of the second heat exchanger.

20. (Currently Amended) The heat exchanger block of claim 19, wherein at least some of said longitudinal headers are aluminum cast parts.

21. (Previously Presented) The heat exchanger block of claim 19, further comprising shroud attachments along a longitudinal wall of at least one of the longitudinal headers.

22. (Currently Amended) The heat exchanger block of claim 19, further comprising ~~an~~ intermediate a thermally insulative insert between the flow passages of said ~~adjacent headers~~ first and second heat exchangers, ~~said insert having a low thermal conductivity.~~

23. (Currently Amended) The heat exchanger block of claim 19, wherein the fastener extends between [[the]] a front and a back of the heat exchanger block in a direction generally perpendicular to both the flow passages and the longitudinal dimension of the longitudinal headers.

24. (Currently Amended) The heat exchanger block of claim 19, wherein each of said aligned holes have an oblong cross-section in a plane perpendicular to an axial dimension of said holes.

25. (Currently Amended) The heat exchanger block of claim 24, wherein said oblong ~~cross-sections~~ cross-section of each [[have]] hole has a major-dimension maximum diameter in the plane, and said major-dimension maximum diameter of [[one]] the oblong cross-section of one hole is transverse to said major-dimension maximum diameter of the other oblong cross-section of an other hole.

26. (Currently Amended) The heat exchanger block of claim 19, wherein said heat exchanger block is a cross-flow heat exchanger block in which the longitudinal headers of the first and second heat exchangers are arranged in two aligned rows.

27. (Currently Amended) The heat exchanger block of claim 19, wherein adjacent headers the end of the header of the first heat exchanger and the end of the header of the second heat exchanger jointly define a substantially longitudinally extending outer profile, and said flange does not extend substantially outside said outer profile.

28. (Currently Amended) The heat exchanger block of claim 19, wherein said flow passages together with fins define a core for each of the first and second heat exchanger exchangers, and said cores a side of all of the first heat exchanger core and a side of the second heat exchangers core are substantially aligned ~~on at least one side~~ in a single plane.

29. (Canceled)

30. (Previously Presented) The heat exchanger block of claim 28, wherein said flange extends substantially parallel to said plane.

31. (Previously Presented) The heat exchanger block of claim 19, further comprising fan mounting arms and arm attachments along a longitudinal wall of at least one of the longitudinal headers.

32. – 36. (Canceled)

37. (Currently Amended) A heat exchanger block comprising:

a first heat exchanger having a first header ~~[[and]]~~ from which tubes ~~extend~~ extending therefrom, the first header having an end ~~[[with]]~~ from which a flange ~~extends~~ extending therefrom, and an aperture defined through the flange, the first heat exchanger defining a portion of a fluid circuit of a first fluid to be cooled;

a second heat exchanger having a second header ~~[[and]]~~ from which tubes ~~extend~~ extending therefrom, the second header having an end, and an aperture defined through a portion of the end ~~of the second header~~, the second heat exchanger defining a portion of a fluid circuit of a second fluid to be cooled, the second fluid circuit fluidly isolated from the first fluid circuit;

the end of the first header of the first heat exchanger ~~header~~ positioned adjacent the end ~~of the second header~~ of the second heat exchanger ~~header~~ such that the apertures are in alignment; and

a fastener positioned through the aligned apertures in order to detachably connect the first and second heat exchangers.

38. (Withdrawn) The heat exchanger block of claim 37, wherein the portion of the end of the second heat exchanger is a flange, and wherein a sliding seat is associated with the fastener.

39. (Withdrawn) The heat exchanger block of claim 37, wherein at least one of the first and second heat exchanger ends further comprises a second aperture through which another fastener is positioned.

40. (Previously Presented) The heat exchanger block of claim 37, wherein at least one of the aligned apertures has an oblong cross-section in a plane perpendicular to an axial dimension of the aperture.

41. (Currently Amended) The heat exchanger block of claim 37, wherein the adjacent first and second headers of the heat exchanger block jointly define a substantially longitudinally extending outer profile, and the flange does not extend substantially outside the outer profile.

42. (Currently Amended) The heat exchanger block of claim 37, wherein the tubes of each of the first and second heat exchanger ~~exchangers~~ define a respective core of each heat exchanger, and a side of the first heat exchanger core and a side of the second heat exchanger core are substantially aligned ~~on at least one side~~ in a single plane.

43. (Currently Amended) The heat exchanger block of claim 37, wherein the first heat exchanger has ~~another a second~~ header, ~~the other header~~ having an end adapted for connection to an end of ~~another a first~~ header of the second heat exchanger.

44. (Previously Presented) The heat exchanger block of claim 37, wherein the header of at least one of the first and second heat exchangers defines a tank substantially enclosing an internal volume for a working fluid.

45. (Previously Presented) The heat exchanger block of claim 37, wherein the fastener prevents relative movement between the headers of the first and second heat exchangers in one direction and allows relative movement between the headers in a direction perpendicular to the one direction.

46. (Currently Amended) A heat exchanger block comprising:

a first heat exchanger with a first header defining an interior volume and forming a manifold for fluid flow, an end of the first header having an engagement element;

a second heat exchanger with a second header defining an interior volume and forming a manifold for fluid flow, the interior volume of the first header being fluidly isolated from the interior volume of the second header, an end of the second header having an engagement element that corresponds to the engagement element of the first heat exchanger;

wherein the first heat exchanger is positioned adjacent the second heat exchanger and the engagement element of the first heat exchanger is secured to the engagement element of the second heat exchanger in order to allow limited movement of the first heat exchanger relative to the second heat exchanger.

47. (Previously Presented) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is a flange with at least one aperture.

48. (Withdrawn) The heat exchanger block of claim 47, and further comprising a sliding seat proximate to the engagement element of the first and second heat exchangers.

49. (Currently Amended) The heat exchanger block of claim 47, wherein the engagement element of the second heat exchanger ~~comprises~~ comprises a recess and an adjacent ~~portion of the end of the second header~~ second heat exchanger having an aperture, and a connector is positioned through the aligned apertures in the first and second ~~heat exchanger header ends~~.

50. (Withdrawn) The heat exchanger block of claim 47, wherein the engagement element of the second heat exchanger is a flange which abuts the flange of the first heat exchanger, the flange of the second heat exchanger having at least one aperture and being positioned such that the apertures are aligned to receive a connector.

51. (Withdrawn) The heat exchanger block of claim 50, and further comprising a sleeve at least partially surrounding the connector.

52. (Previously Presented) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is connected to the engagement element of the second heat exchanger such that expansion and contraction of heat exchanger components due to temperature fluctuations are accommodated.

53. (Currently Amended) The heat exchanger block of claim 46, wherein the ~~adjacent~~ first and second headers of the heat exchanger block jointly define a substantially longitudinally extending outer profile, and the engagement elements are positioned substantially within the outer profile.

54. (Currently Amended) The heat exchanger block of claim 46, wherein ~~[[the]] each of the first and second heat exchangers includes~~ header defines a manifold for a working fluid within a core of the respective heat exchanger, and a side of the first heat exchanger core and a side of the second heat exchanger core are substantially aligned ~~on at least one side~~ in a single plane.

55. (Currently Amended) The heat exchanger block of claim 46, wherein the first heat exchanger has ~~another a second~~ a second header and the second heat exchanger has a first header, the ~~[[other]]~~ second header having an end adapted to be removeably secured to an end of ~~another the~~ first header of the second heat exchanger.

56. (Currently Amended) The heat exchanger block of claim 46, wherein ~~[[an]] a thermally insulative insert having low thermal conductivity~~ a thermally insulative insert is positioned between adjacent portions of the first and second heat exchangers.

57. (Previously Presented) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is in contact with the engagement element of the second heat exchanger.

58. (Currently Amended) A method of forming a heat exchanger block from ~~first and second heat exchangers~~ a first heat exchanger comprising a portion of a fluid circuit for cooling a first fluid and a second heat exchanger comprising a portion of a fluid circuit for cooling a second fluid which is fluidly isolated from the fluid circuit for the first fluid, the method comprising the acts of:

providing the first heat exchanger with a first header having an end with a flange and ~~[[an]] a first~~ aperture defined through the flange, and the second heat exchanger with a second header having an end ~~and an~~ through which a second aperture ~~is~~ defined ~~through a portion of the end~~;

positioning the first and second headers such that the first and second apertures are in alignment; and

removably connecting the first and second headers of the first and second heat exchangers with a fastener inserted through the aligned first and second apertures.

59. (Currently Amended- Withdrawn) The method of claim 58, and further comprising:

allowing for at least one of expansion and contraction of components of the heat exchanger ~~components~~ due to thermal cycling by providing elasticity at the connection between the first and second headers of the first and second heat exchangers.

60. (Currently Amended) The method of claim 58, and further comprising:

providing a first heat exchanger core extends from the first header ~~of both the first and a second heat exchanger core extends from the second header~~ second heat exchangers; and

positioning the first and second headers such that a side of the first heat exchanger core and a side of the second heat exchanger core ~~the first and second heat exchanger cores are aligned on at least one side in a~~ single plane.

61. (Currently Amended) The method of claim 60, and further comprising:

securing a fan shroud to attachment portions around a perimeter of the heat exchanger block ~~[[in]] on the at least one side~~ sides aligned in a single plane.

62. (Currently Amended) The method of claim 58, and further comprising:

insulating the first heat exchanger from the second heat exchanger by providing ~~[[an]] a~~
thermally insulative insert of low thermal conductivity between adjacent portions of the heat
exchangers.

63. (Currently Amended) The method of claim 58, and further comprising:

providing dampers for mounting the heat exchanger block such that ~~[[it]]~~ the heat
exchanger block is substantially isolated from at least one of external movement and vibrations.